



**DEPARTMENT OF THE AIR FORCE**  
**90TH MISSILE WING (AFGSC)**

13 APR 13

**MEMORANDUM FOR RECORD**

**FROM:** 90 MW/CC

**SUBJECT:** Final Finding of No Significant Impact Wastewater Lift Station

1. F. E. Warren (FEW) Air Force Base proposes to construct a new lift station building adjacent to the current lift station.
2. Pursuant to 40 CFR §1508.13 and 32 CFR §989 (Air Force Environmental Impact Analysis Process), federal agencies shall complete an Environmental Assessment (EA) and, if appropriate, document the action will not have a significant effect on the environment through a Finding of No Significant Impact (FONSI). FEW completed an EA for the proposed lift station. The EA included a complete description of the proposed action, alternatives considered and any anticipated environmental effects (Attached).
3. I conclude that the proposed action does not constitute a major federal action significantly affecting the quality of the human environment when considered individually or cumulatively in the context of the referenced Act, including both direct and indirect impacts. Therefore, an Environmental Impact Statement (EIS) is not necessary. My decision to approve the proposed action is based upon the following:
  - a. Failure to take action to repair the lift station will ultimately result in failure of the sole lift station serving FEW. Wastewater will not be able to be removed from FEW and delivered to the City of Cheyenne for treatment.
  - b. No alternate lift station exists to support a total reconstruction of the existing lift station while its wet well and wastewater handling systems are being replaced. Dismantling the entire lift station in place is not feasible, as no alternate piping system exists to handle wastewater while this is being accomplished.
  - c. On 16 May 2011, the Wyoming Regulatory Office of the U.S. Army Corps of Engineers confirmed repairing the lift station in place will not impact a jurisdictionally-delineated wetland. Therefore, a Section 404 Department of the Army permit to dredge and fill waters of the United States is not required.
  - d. On 28 December 2011, the Wyoming State Historic Preservation Office reviewed the proposed action and determined it would have no adverse effect to historic properties.

Report Documentation Page			Form Approved OMB No. 0704-0188		
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE <b>APR 2013</b>		2. REPORT TYPE		3. DATES COVERED <b>00-00-2013 to 00-00-2013</b>	
4. TITLE AND SUBTITLE <b>Final Environmental Assessment (EA) for Replacement of the Wastewater Lift Station (Building 510)</b>			5a. CONTRACT NUMBER		
			5b. GRANT NUMBER		
			5c. PROGRAM ELEMENT NUMBER		
6. AUTHOR(S)			5d. PROJECT NUMBER		
			5e. TASK NUMBER		
			5f. WORK UNIT NUMBER		
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>90th Civil Engineer Squadron (90 CES/CEAN),300 Vesle Dr Ste 600,Francis E. Warren AFB,WY,82005</b>			8. PERFORMING ORGANIZATION REPORT NUMBER		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSOR/MONITOR'S ACRONYM(S)		
			11. SPONSOR/MONITOR'S REPORT NUMBER(S)		
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release; distribution unlimited</b>					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT <b>Same as Report (SAR)</b>	18. NUMBER OF PAGES <b>32</b>	19a. NAME OF RESPONSIBLE PERSON
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>			

e. On 21 February 2012, FEW consulted with the U.S. Fish and Wildlife Service and they had no comments on the proposed action.

4. My point of contact for this memorandum is Mr. Travis Beckwith, 90 CES/CEAN. He may be reached at (307)-773-3667 or via email at [travis.beckwith@us.af.mil](mailto:travis.beckwith@us.af.mil).

A handwritten signature in black ink, appearing to read 'C.A. Coffelt', with a stylized flourish at the end.

CHRISTOPHER A. COFFELT, Colonel, USAF  
Commander

Attachment:  
Final Environmental Assessment

**FINAL**

**ENVIRONMENTAL ASSESSMENT (EA)**

**FOR**

**REPLACEMENT OF THE WASTEWATER LIFT STATION**

**(Building 510)**

**GHLN 07-1054**

**F. E. WARREN AIR FORCE BASE, WYOMING**

**MARCH 2013**

Prepared by: Oneida Total Integrated Enterprises  
90 CES/CEAN, Francis E. Warren AFB, Wyoming  
Point of Contact: Mr. Travis Beckwith, (307) 773-3667

## **Table of Contents**

<b>1. INTRODUCTION .....</b>	<b>4</b>
<b>2. PURPOSE AND NEED FOR ACTION .....</b>	<b>4</b>
<b>3. SCOPE OF THE ENVIRONMENTAL ASSESSMENT .....</b>	<b>5</b>
<b>4. SELECTION CRITERIA.....</b>	<b>4</b>
4.1. Continuous Functioning of Lift Station.....	4
4.2. Lift Station Proximity to Crow Creek Floodplain and Wetlands.....	4
4.3. Base Topography. ....	4
<b>5. DESCRIPTION OF THE ALTERNATIVES .....</b>	<b>5</b>
5.1. Alternative A-No Action.....	5
5.2. Alternative B-Repair Lift Station In Place .....	5
5.3. Alternative C-Build New Lift Station In Close Proximity .....	5
5.3. Alternative D-Partially Rebuild Existing Lift Station .....	5
<b>6. ALTERNATIVES ELIMINATED FROM FURTHER STUDY.....</b>	<b>6</b>
<b>7. PLANNING AND SCOPING PROCESS .....</b>	
<b>8. AFFECTED ENVIRONEMENT .....</b>	<b>6</b>
8.1. Air Quality.....	7
8.2. Water Resources.....	7
8.3. Plant Communities.....	8
8.4. Wildlife.....	9
<b>9. ENVIRONMENTAL CONSEQUENCES.....</b>	<b>10</b>
9.1. Alternative A-No Action.....	10
9.2. Alternative C-Build New Lift Station in Close Proximity .....	10
9.3. Alternative D-Partially Rebuild Existing Lift Station .....	12
<b>10. PERSONS AND AGENCIES CONSULTED .....</b>	<b>13</b>
<b>11. REFERENCES .....</b>	<b>13</b>
<b>12. LIST OF PREPARERS .....</b>	<b>14</b>
<b>TABLE 1. COMPARISON OF ALTERNATIVES WITH SELECTION CRITERIA.....</b>	<b>15</b>

## **1. INTRODUCTION.**

F. E. Warren Air Force Base (FEW) proposes to repair and replace the Crow Creek Lift Station in Building 510.

## **2. PURPOSE AND NEED FOR ACTION.**

The purpose of this action is to prevent the wastewater spill that is likely to occur because the Lift Station is ageing and likely to fail in the foreseeable future.

Building 510, the lift station, built in 1951, is the sole wastewater lift station supporting F. E. Warren AFB (FEW) and is showing signs of foundation de-lamination. The wet well portion of the lift station where sewage collects prior to being pumped up to the main sewer distribution line is old and corroded from sewage gases. The lift station is approximately 164 feet from the centerline of Crow Creek (90 CES GeoBase Viewer, 2007). The proposed action is approximately 15 feet outside the 100-year floodplain.

Failure of the lift station will result in a wastewater spill in close proximity to Crow Creek, and will produce a drastic reduction in the use of water and elimination of wastewater from the living and working environments on FEW. The lift station needs to be replaced to ensure that wastewater from FEW continues to be safely and efficiently moved to the City of Cheyenne sanitary sewer system.

The lift station is approximately 432 square feet and contains two pumps, various valves, and electrical equipment necessary to pump wastewater from a lower to higher elevation gravity mains and ultimately to the City of Cheyenne Board of Public Utilities (BOPU) wastewater treatment plant. The lift station pumps the collected wastewater through a force main that crosses the Burlington Northern Santa Fe Railroad.

## **3. SCOPE OF THE ENVIRONMENTAL ASSESSMENT.**

This Environmental Assessment (EA) is required by the Air Force Environmental Impact Analysis Process (32 CFR § 989), the National Environmental Policy Act (Public Law 91-190), Council on Environmental Quality (CEQ) Regulations (40 CFR §1500-1508), and Air Force Instruction 32-7061, The Environmental Impact Analysis Process (2010). This EA identifies, describes, and evaluates the potential direct, indirect, and cumulative environmental impacts that could result from the construction of the proposed action.

## **4. SELECTION CRITERIA.**

The selection of feasible alternatives for repairing the lift station is based on the following criteria:

### **4.1. Continuous Functioning of the Crow Creek Lift Station during Construction/Repair.**

The Crow Creek Lift Station is the sole wastewater lift station supporting wastewater handling at FEW. Repair and/or replacement of the lift station shall not, to the greatest extent practicable, interfere with the wastewater handling system at the Lift Station since the only alternative for handling wastewater would be to transport it from Base via tanker trucks. Transport of wastewater via tanker trucks is costly and time consuming, making the continuous functioning of the lift station an absolute priority.

#### 4.2. Lift Station Proximity to Crow Creek Floodplain and Wetlands.

The lift station is currently located outside of Crow Creek's 100-year floodplain. The repair and construction project will avoid the 100-year floodplain entirely; this will reduce the lift station's susceptibility to flooding.

Construction and repair will avoid the floodplain associated with nearby Crow Creek to minimize impacts to wetland flora and fauna and avoid adverse impacts to Crow Creek's water quality.

### 5. DESCRIPTION OF ALTERNATIVES.

**5.1.1. NO ACTION (Alternative A)** – No action would be taken to repair or replace Building 510, the lift station.

**5.1.2. REPAIR LIFT STATION IN PLACE (Alternative B) – Alternative B** would involve supporting the above-ground structure of the lift station while demolishing and reconstructing the foundation. The force main, due to age and deterioration, would be replaced for approximately 300 feet to the next manhole. A dike would be constructed and installed around the facility to prevent runoff during the repair activities.

**5.1.3. BUILD NEW LIFT STATION IN CLOSE PROXIMITY (Alternative C, Preferred Alternative) – Alternative C** would construct a new lift station building (wet well and generator room) in close proximity to the existing structure. Incoming sewer lines would be realigned with the new Lift Station. This Alternative would require replacing approximately 600 feet of sewer main. A portion will be a force main with a manhole and an additional gravity main or 600 feet of force main.

Two gravity sewer lines flow to the existing lift station. An eight-inch diameter PVC line flows to the existing lift station from the northwest and a 12-inch diameter steel line flows to the lift station from the west. A new four-foot diameter manhole will be set on the 12-inch line and that flow will be directed to a new six-foot manhole that also intercepts flow from the eight-inch line. A 12-inch PVC line will then convey flow from the 6-foot manhole into a new pre-fabricated manhole. After passing through the new pre-fabricated manhole, the 12-inch PVC line will then continue to the new lift station.

The existing gravity sewer lines between the new manholes and the existing lift station will be plugged and abandoned in place. The existing lift station building will be demolished. The existing wet well and drywell will be removed to a minimum depth of 4 feet and the remaining volumes filled and compacted with approved fill material. All equipment and utilities will be removed from the existing lift station building. Prior to demolition, any asbestos-containing material will be abated by a licensed abatement contractor.

**5.1.4. PARTIALLY REBUILD NEW LIFT STATION (Alternative D) – Alternative D** would construct an addition to the generator room of the lift station for the new pump station and wet well. New pumps would be installed with new connections to existing generators. Once completed, the existing pump and wet well would be demolished. Alternative D still involves some realignment of incoming and force main sewer lines, however, these realignments would require less modification than the realignments required by other Alternatives. A force main

would be replaced for approximately 300 feet to the next manhole due to age and deterioration. A dike would be constructed and installed around the facility to prevent runoff.

## **6. ALTERNATIVES ELIMINATED FROM FURTHER STUDY.**

**Alternative B (Repair Lift Station In Place)** is potentially the least costly of the alternatives; however, there is no alternate facility that could support the lift station operations while the building is being constructed and repaired in place; thus, **Alternative B** does not appear to be feasible. Additionally, the existing lift station wet well may not be adequately sized for base operations and its inadequate size will not be addressed through repairs. Because this Alternative does not satisfy the selection criterion that continuous functioning of the lift station must be preserved, **Alternative B** is eliminated from further consideration.

## **7. PLANNING AND SCOPING PROCESS**

7.1.1. 332 Dated February 2009.

7.1.2. AF 813, Request for Environmental Impact Analysis, dated 7 April 2009 stated that the proposed action will require an EA.

7.1.3. Scoping Meeting held 24 February 2011.

## **8. AFFECTED ENVIRONMENT.**

The Environmental Resources that will not be affected by the Proposed Action or Alternatives include: Land Use, Threatened and Endangered Species, Cultural Resources, Noise, Socioeconomics, or Hazardous Waste Disposal.

A description of these environmental resources can be found in the *Programmatic Environmental Assessment for F. E. Warren Air Force Base, April 2005* and is incorporated by reference into this environmental assessment document.

### **8.1. Water Resources.**

The installation is located within the Crow Creek Watershed, which is part of the South Platte River Basin. Perennial surface water resources located on the Base include Diamond Creek, Crow Creek, North and South Pearson Lakes, and Lake Centennial. The installation contains approximately 127 acres of wetlands delineated in the U.S. Fish and Wildlife Service National Wetlands Inventory. While variable, depth to groundwater generally exceeds five feet throughout the installation.



## 8.2. Natural Resources.

### 8.2.1. Plant Communities.

Three primary vegetation communities occur on the Base: (1) shortgrass prairie grassland; (2) wet (mesic) meadow wetlands; and (3) riparian areas – cottonwood and willow. The shortgrass prairie grassland is dominated by blue grama (*Bouteloua gracilis*), western wheatgrass (*Elymus smithii*), needle-and-thread grass (*Stipa comata*), and fringed sagewort (*Artemisia frigida*). Wet meadows on the Base are dominated by foxtail barley (*Hordeum jubatum*), Kentucky bluegrass (*Poa pratensis*), tall wheatgrass (*Elymus elongatus*), baltic rush (*Juncus balticus*), tufted hairgrass (*Deschampsia cespitosa*), bluejoint grass (*Calamagrostis canadensis*), and sedges (*Carex spp.*). The riparian areas are dominated by a shrub scrub community of sandbar willow (*Salix exigua*), strap willow (*Salix lingulifolia*), and crack willow (*Salix fragilis*), with scattered cottonwood (*Populus deltoides*) and green ash (*Fraxinus pennsylvanica*) trees and herbaceous understory similar to the mesic meadows. Much of the previously disturbed and reclaimed areas on the Base (e.g., small arms impact area) are dominated by planted crested wheatgrass (*Agropyron cristatum*), which was planted as part of restoration efforts (WEST 2001b).

Developed areas of the Base have a woody vegetation component that, while not originally present, is extremely important for wildlife, aesthetic, cultural, and social values. Plains cottonwood, Colorado spruce, Ponderosa pine, and green ash are the most important woody vegetation species on the installation. There are no wooded areas of five acres or greater on the Base; however, the urban forest is an intrinsic component of the current environment of the Historic District.

Several noxious weed species are known to occur on the Base. Of these species, Canada thistle (*Cirsium arvense*), Dalmatian toadflax (*Linaria dalmatica*), and Leafy spurge (*Euphorbia esula*) are the most prevalent.

### 8.2.2. Wildlife.

A relatively large herd of pronghorn antelope (*Antilocarpa americana*) inhabits the Base. Although the pronghorn on the installation are a part of the larger Iron Mountain herd, most reside on the installation year-round. The Base population was approximately 275 to 300 animals in 2012. The pronghorn are free ranging and occur throughout the Base, including the developed urban areas.

At least 139 species of birds have been recorded on the Base. Included among the several species of waterfowl are the tundra swan (*Cygnus columbianus*), Canada goose (*Branta canadensis*), and wood duck (*Aix sponsa*). The birds-of-prey recorded on the Base include the turkey vulture (*Cathartes aura*), bald eagle (*Haliaeetus leucocephalus*), peregrine falcon (*Falco peregrinus*), and several species of hawk (*Buteo spp.*) (WEST 2001b).

## 8.3. Geography/Geology.

FEW lies within the High Plains section of the Great Plains Physiographic Province. Rocks within the region range in age from Pre-Cambrian to recent, and are composed primarily of shale with small amounts of sandstone, siltstone, and limestone. The Base is in Seismic Zone 1, which means there is a minor seismic event probability. The Base topography is characterized by broad plateaus that are nearly flat in the historic core, and increase in slope along the ridgelines and along Crow Creek.

Elevation ranges from 6,080 feet in the southeastern portion of the Base to 6,365 feet in the northern portion. Most areas with slopes of 10 percent or greater, which are generally considered unsuitable for construction, are located in the undeveloped northern third of the Base.

The predominant soil series on the Base is classified texturally as loamy, with an average topsoil depth ranging from four to six inches. The subsoil is primarily alluvial clay that extends from a depth of approximately 6 to 36 inches.

#### **8.4. Air Quality.**

Under provisions of the Clean Air Act (CAA), the U.S. Environmental Protection Agency (EPA) established National Ambient Air Quality Standards (NAAQS) for air pollutants considered harmful to human health and the environment. The CAA established two types of national air quality standards. One set of limits (the primary standard) protects health; another set of limits (the secondary standard) is intended to prevent environmental and property damage. A geographic area that meets or exceeds the primary standard is called an **attainment area**; areas that don't meet the primary standard are called **non-attainment areas**. Laramie County is designated as an attainment area for all criteria air pollutants.

#### **8.5. Safety and Occupational Health**

Trichloroethylene (TCE): The chemical compound trichloroethylene is a chlorinated hydrocarbon commonly used as an industrial solvent. Five plumes of trichloroethylene - contaminated groundwater have been discovered on the installation. These plumes cover approximately 700 acres.

#### **8.6. Solid Waste Disposal**

##### **8.6.1. Sanitary Sewer System**

A National Pollutant Discharge Elimination System (NPDES) permit issued by the WYDEQ is in place to allow discharge of domestic and industrial processed wastewater into the city of Cheyenne's wastewater collection system. The Board of Public Utilities (BOPU) treats all wastewater discharged by FEWAFB directly into the city's sanitary sewer system. The BOPU treats all wastewater collected in its service region at one of two treatment plants. These include the Dry Creek Treatment Plant (7 MGD capacity) and the Crow Creek Treatment Plant (4 MGD capacity). These plants are operating at 90 percent of their current capacity.

The existing on-base sanitary sewer system includes the collection system and one lift station (Figure A-3). The collection system consists of two distinct parts: south of Crow Creek and the Historic District. The part of the system south of Crow Creek requires a lift station in order to merge with the flow from the base cantonment area.

According to data from BOPU, the average monthly flow rate at FEWAFB was roughly 357,000 gallons per day (gpd) from November 2008 through December 2010 (for the entire sanitary sewer system). Applying these estimated percentages to the average daily flow of 357,000 for the entire base, average daily flow rates at the Crow Creek Lift Station are approximately 64,000 gpd to 90,000 gpd.

In the past, sewage exiting the base exceeded the flow of potable water entering FEWAFFB. This unusual condition occurred in the spring during the periods of heavy rains. In addition, the sanitary sewer flow is higher in summer months than in winter months. Summer increases coincide with the large increases in irrigation and, therefore, much of the water used to irrigate lawns has been finding its way into the sewer through inflow and infiltration.

In terms of total flow capacity, the sanitary sewer system can support moderate growth. The collection area south of Crow Creek is limited by the amount that can be pumped through the Crow Creek Lift Station, which is 700,000 gpd.

## **9. ENVIRONMENTAL CONSEQUENCES.**

The lift station replacement project is not anticipated to create a significant increase in capital construction. It is not anticipated that there would be any cumulative, long term, irreversible or irretrievable impacts. The following will be discussed in greater detail for each alternative considered:

**Water Quality.** Due to the proximity of the lift station to Crow Creek and its riparian area there could be impacts to water quality in Crow Creek, its nearby wetlands, and groundwater in the event of a lift station failure.

**Natural Resources.** There may be potential impacts to the soils, flora, fauna, and wetlands in the Crow Creek floodplain as the result of lift station construction or a possible Lift Station failure.

**Geology/Soils.** The repair and rebuild of the lift station will cause a small to moderate amount of soil erosion and runoff. The most widespread soils on Base are susceptible to wind and water erosion. Soils are also susceptible to contamination from wastewater spill if the lift station fails or if a spill occurs during the repair and rebuilding process. Soils that become contaminated with microorganisms from a wastewater spill may be difficult to clean or remediate.

**Air Quality.** The repair and rebuild of the lift station will create a minor amount of fugitive dust emissions and there will also be a short-term increase in vehicle emissions generated by construction/demolition equipment.

**Safety and Occupational Health.** There could be direct negative impacts to safety and occupational health as a result of a spill during the rebuild or replacement of the lift station. A spill of wastewater into the waterways of Crow Creek will create a safety and occupational health hazard by introducing disease causing microorganisms into Crow Creek and the surrounding area.

**Solid Waste Disposal.** The repair and rebuild of the lift station will have minor impacts on solid waste disposal at FEWAFFB.

### **9.1. Alternative A-No Action.**

**Alternative A** would take no action to repair or replace the lift station.

**Direct, Indirect and Cumulative Impacts –** The existing lift station would remain in use. The station will continue to age and deteriorate raising the likelihood of a station failure. A station

failure will result in the release of wastewater onto the floodplain resulting in the potential contamination of soil and water as well as impacts on the flora and fauna using the affected area of the floodplain.

## **9.2. Alternative C-BUILD NEW LIFT STATION IN CLOSE PROXIMITY (Preferred Alternative).**

**Alternative C** would rebuild the lift station in close proximity to its current location.

### **9.2.1. Water Resources.**

A. Direct and Indirect Impacts – A wastewater spill resulting from a failure of the lift station would have a direct negative impact on Crow Creek's water quality. A wastewater spill would compromise water quality in Crow Creek by introducing foreign nutrients, harmful bacteria and other microorganisms into the watershed. After a spill occurred, the time required for natural and artificial remediation of Crow Creek's water quality would depend on the amount of wastewater released.

For example, assuming the lift station was operating at its maximum daily flow rate of 90,000 gallons per day for 5 days before a spill was detected, a total of 450,000 gallons of wastewater could flow into Crow Creek. This size of spill would require artificial remediation in addition to the natural remediation, as wetlands cannot absorb that amount of wastewater via natural biofiltration mechanisms and still maintain acceptable water quality standards in Crow Creek. Depending on the amount of wastewater that spilled into Crow Creek, remediation efforts may take up to 1 to 3 years to restore water quality to acceptable standards. Relocating the lift station outside of the Crow Creek floodplain will greatly reduce the risk that a spill would directly or indirectly impact water quality in Crow Creek. The lift station replacement will replace the components of the Lift Station including the wet well and pump station that would handle wastewater—these new components are much less likely to be prone to spillage or failure.

B. Management Practices – Standard spill prevention measures will be taken to minimize the risk of a wastewater spill occurring during construction of the new lift station.

C. Cumulative Impacts – The construction of a new lift station, in combination with other construction activity occurring on or near the Base will have a positive long-term impact on the water quality in Crow Creek by reducing the likelihood of a lift station failure and resulting wastewater release.

### **9.2.2. Natural Resources.**

A. Direct and Indirect Impacts – A wastewater spill resulting from a failure of the lift station would have a direct negative impact on the wildlife, and plant life within the area affected by the spill. The wildlife and plants that depend on the floodplain habitat would also be indirectly negatively impacted by exposure to wastewater with impaired water quality. Water quality could be degraded directly by exposure to a wastewater release that reached Crow Creek.

Exposure to wastewater could produce negative health effects to animals, such as pronghorn and birds, as wastewater is likely to contain disease-causing microorganisms. The nutrients in wastewater can also cause eutrophication, a process by which increased nutrient availability leads to excessive algal growth. Excessive algal growth can lead to hypoxia (lack of oxygen) in

the water supply, as the algae uses all the available oxygen in the water. Hypoxia can lead to die-offs of fish, amphibians, and other aquatic organisms.

The U.S. Army Corps of Engineers has concurred that no wetlands will be impacted by the relocation of the lift station. (USACE, Correspondence dated 5/16/2011).

There will be minor short-term impacts such as disturbances to nearby flora and fauna, as the result of construction and demolition activities associated with relocating the lift station.

B. Management Practices – Standard spill prevention measures will be taken to minimize this risk of a wastewater spill occurring during construction.

C. Cumulative Impacts – The construction of a new lift station, in combination with other construction activity occurring on or near the Base will not have a cumulative, short-term or long-term, irreversible, or irretrievable impact on natural resources.

#### 9.2.3. Geology and Soils.

A. Direct and Indirect Impacts – Ground disturbance during demolition will create a short-term increase in the potential for soil erosion. The soils most widespread on Base are susceptible to wind and water erosion. Additionally, soils may be contaminated wastewater should a spill occur during repair or construction. Wastewater spills may introduce harmful or disease-causing microorganisms into the soils surrounding the lift station. Depending on the size of the spill, the time to remediate the soils surrounding the lift station could take 1 to 3 years.

B. Management Practices –The demolition contractors will be required to provide erosion and sediment control measures in accordance with federal, state, and local laws and regulations. The area of bare soil exposed at any one time by demolition operations shall be kept to minimum.

C. Cumulative Impacts –The demolition of the original wastewater lift station, when combined with the impacts of other projects on or proximate to the Base, will not have a significant short-term or long-term impact on installation geology or soils.

#### 9.2.4. Air Quality.

A. Direct and Indirect Impacts – A short-term increase in fugitive dust will be generated by ground disturbing activities during construction/demolition of the facilities. There will also be a short-term increase in vehicle emissions generated by construction/demolition equipment. The Base is in an air quality attainment area; therefore, an air conformity analysis is not needed.

B. Management Practices – Construction/demolition contractors will be required to implement procedures to minimize dust particles associated with project activities. The contractors shall maintain excavations, stockpiles, haul roads, permanent and temporary access roads, and other work areas within or outside the project boundaries free from particulates that would violate federal, state or local air pollution standards or create a nuisance. To minimize erosion and fugitive dust, bare soil will be re-vegetated as soon as practicable.

C. Cumulative Impacts – There are no anticipated short-term or long-term cumulative impacts to air quality associated with the rebuild and relocation of the lift station. Planned future land use patterns will not change significantly from existing land use configurations (USAF 2004).

Planned future development is not expected to change the air quality status on the Base or in the surrounding area.

#### 9.2.5. Safety and Occupational Health.

A. Direct and Indirect Impacts – A wastewater spill resulting from a failure of the lift station would have a direct negative impact on safety and occupational health. Wastewater may contain typically contain microorganisms and nutrients which can be harmful to human health. Exposure to these microorganisms via direct contact with the skin, eyes, or mouth has the potential to cause disease and illness in exposed individuals.

B. Management Practices – Relocating the lift station out of the Crow Creek floodplain will greatly reduce the risk that a spill would directly or indirectly impact the water quality in Crow Creek.

Standard spill prevention measures would be taken to minimize this risk of a wastewater spill occurring during construction of the new lift station.

C. Cumulative Impacts – The construction of a new lift station, will have a cumulative positive long-term, impact on safety and occupational health by reducing the risk of a lift station failure.

### 9.3. Alternative D-PARTIALLY REBUILD LIFT EXISTING STATION.

**Alternative D** would partially rebuild portions of the existing lift station in place and would not relocate the existing building outside of its proximity to the Crow Creek floodplain.

#### 9.3.1. Water Resources.

A. Direct and Indirect Impacts – Alternative D does not reduce the risk that a lift station failure would impact water resources because it does not relocate the lift station out of the Crow Creek floodplain. A lift station failure may result in the release of wastewater into Crow Creek, its nearby wetlands, and possibly contaminate groundwater. However, once the Partial Rebuild of the Lift Station is completed, a future failure of the Lift Station is unlikely. The Partial Rebuild will replace the components of the Lift Station including the wet well and pump station that would handle wastewater—these new components are much less likely to be prone to spillage or failure.

B. Management Practices – Standard spill prevention measures would be taken to minimize this risk of an effluent or wastewater spill occurring during construction.

C. Cumulative Impacts – The Partial Rebuild of the existing lift station, in combination with other construction activity occurring on Base will have a positive long-term impact on the water quality in Crow Creek by reducing the likelihood of a lift station failure and resulting wastewater release. .

#### 9.3.2. Natural Resources.

A. Direct and Indirect— Alternative D does not reduce the risk that a lift station failure will result in impacts to the nearby wetlands in Crow Creek's floodplain. A wastewater spill resulting from a failure of the lift station would have a direct negative impact on the wetlands, wildlife, and plant life that inhabits the Crow Creek floodplain surrounding the lift station. Wetland quality would be

degraded directly by exposure to wastewater of poor water quality. The wildlife and plants that depend on the Crow Creek floodplain habitat would also be indirectly negatively impacted by exposure to untreated wastewater.

B. Management Practices – Standard spill prevention measures would be taken to minimize this risk of a wastewater spill occurring during construction.

C. Cumulative Impacts – The partial rebuild of the existing lift station, in combination with other construction activity occurring on Base, will not have a cumulative, short-term or long-term, irreversible, or irretrievable impacts on natural resources.

#### 9.3.3. Geology and Soils.

A. Direct and Indirect Impacts – Ground disturbance during construction/demolition will create a short-term increase in the potential for soil erosion. The soils most widespread on the Base are susceptible to wind and water erosion.

B. Management Practices – The construction/demolition contractors will be required to provide erosion and sediment control measures in accordance with federal, state, and local laws and regulations. The area of bare soil exposed at any one time by construction/demolition operations shall be kept to minimum. The erosion and sediment control measures should substantially reduce soil erosion associated with the project.

C. Cumulative Impacts – The partial rebuild of the existing lift station, when combined with the impacts of other projects on or proximate to the Base, will not have a significant short-term or long-term impact on installation geology or soils.

#### 9.3.4. Air Quality.

A. Direct and Indirect Impacts - A short-term increase in fugitive dust will be generated by ground disturbing activities during construction/demolition of the facilities. There will also be a short-term increase in vehicle emissions generated by construction/demolition equipment. The Base is in an air quality attainment area; therefore, an air conformity analysis is not needed.

B. Management Practices – Construction/demolition contractors will be required to implement procedures to minimize dust particles associated with project activities. The contractors shall maintain excavations, stockpiles, haul roads, permanent and temporary access roads, and other work areas within or outside the project boundaries free from particulates that would violate federal, state or local air pollution standards or create a nuisance. To minimize erosion and fugitive dust, bare soil will be re-vegetated as soon as practicable.

C. Cumulative Impacts – There are no anticipated short-term or long-term impacts to air quality associated with the partial rebuild of the lift station. Planned future land use patterns will not change significantly from existing land use configurations (USAF 2004). Planned future development is not expected to change the air quality status on the Base or in the surrounding area.

#### 9.3.5. Safety and Occupational Health.

A. Direct and Indirect Impacts – A wastewater spill resulting from a failure of the lift station would have a direct negative impact on safety and occupational health. Wastewater may

contain typically contain microorganisms and nutrients which can be harmful to human health. Exposure to these microorganisms via direct contact with the skin, eyes, or mouth has the potential to cause disease and illness in exposed individuals.

B. Management Practices – Rebuilding the lift station will greatly reduce the risk that a spill would occur. Standard spill prevention measures will be taken to minimize the risk of a wastewater spill occurring during construction.

C. Cumulative Impacts – The construction of a new lift station, will have a positive long-term, impact on safety and occupational health by reducing the risk of a lift station failure.

## 10. PERSONS AND AGENCIES CONSULTED.

The following agencies/individuals were contacted and/or provided a copy of the EA during its original preparation in order to afford an opportunity for comment on the content of the document. Agency consultations are required per 32 CFR 989.14(d).

Wyoming State Historic Preservation Office 2301 Central Avenue Cheyenne WY 82002	Kurt Warmbier (90 MW/JA) Attorney Advisor, Environmental Law F. E. Warren AFB WY 82005	Todd Eldridge (90 CES/CEAN) Community Planner F. E. Warren AFB WY 82005
Travis Beckwith (90 CES/CEAN) Historic Preservation Officer F. E. Warren AFB WY 82005	U.S. Fish and Wildlife Service Ecological Services 5353 Yellowstone Road Cheyenne WY 82009-4178	U.S. Army Corps of Engineers, Wyoming Regulatory Office 2232 Dell Range Boulevard Cheyenne WY 82009-4942

## 11. REFERENCES.

32 CFR § 989, Department of the Air Force Environmental Impact Analysis Process (EIAP).

90 MW Plan 32-2, 90th Missile Wing Hazardous Waste Management Plan, January 2011.

AFI 32-7042, Waste Management, April 2009.

AFPAM 32-7043, Hazardous Waste Management Guide, November 1995.

FEW Integrated Cultural Resources Management Plan, August 2009.

FEW Integrated Natural Resources Management Plan, May 2006.

FEW Spill Prevention, Control and Countermeasure Plan, December 2010.

FEW General Plan, April 2005.

Western Ecosystems Technology (WEST), 2001b. *Fish and Wildlife Management Operational Component Plan for Francis E. Warren Air Force Base.*

Wyoming Department of Environmental Quality, Air Quality Division Permit MD-1287 (MD-1287).



## 12. LIST OF PREPARERS

### 12.1. Preparers

<b>Name</b>	<b>Sections</b>	<b>Background</b>	<b>Experience (years)</b>
Kurt Warmbier	1-6	B.S., Biology; M.S., Env Mgmt; M.P.A.; J.D.	22
Jennifer Howenstine	1-6	B.A., Biology, Master's, Environmental Science	5

### 12.2. Reviewers

<b>Name</b>	<b>Agency</b>	<b>Title</b>
Kurt Warmbier	USAF, 90 MW/JA	Attorney Advisor, Environmental Law
Travis Beckwith	90 MW/CEAN	Base Historic Preservation Officer

**Table 1. Comparison of Predicted Environmental Impacts (except No Action).**

There are no impacts for noise, cultural resources, or land use for any alternative.

<b>Impacts</b>	<b>Alternative B</b>	<b>Alternative C</b>	<b>Alternative D</b>
<b>Water Quality</b>	Potential impacts to water quality in Crow Creek if the Lift Station failed.	Reduced likelihood of potential impacts to water quality.	Potential impacts to water quality in Crow Creek if the Lift Station failed.
<b>Air Quality</b>	Potential short-term increase in fugitive dust emissions and air emissions due to operation of construction and demolition equipment.	Potential short-term increase in fugitive dust emissions and air emissions due to operation of construction and demolition equipment.	Potential short-term increase in fugitive dust emissions and air emissions during construction and demolition.
<b>Safety and Occupational Health</b>	Possible negative impacts to safety and health from a wastewater spill due to exposure to disease-causing microorganisms in wastewater.	Possible negative impacts to safety and health from a wastewater spill due to exposure to disease-causing microorganisms in wastewater	Possible negative impacts to safety and health from a wastewater spill to exposure to disease-causing microorganisms in wastewater.

<b>Hazardous Waste, Hazardous Materials, Solid Waste</b>	Wastewater will not be properly handled and disposed if a spill were to occur due to Lift Station failure. Wastewater would have to be removed by truck.	Wastewater will not be properly handled and disposed if a spill were to occur due to Lift Station failure. Wastewater would have to be removed by truck.	Wastewater will not be properly handled and disposed if a spill were to occur due to Lift Station failure. Wastewater would have to be removed by truck.
<b>Natural Resources</b>	Potential impacts to natural resources from surface disturbing activities. The project area lies within the Crow Creek Watershed, a major drainage for the base.	Potential impacts to natural resources from surface disturbing activities. The project area lies within the Crow Creek Watershed, a major drainage for the base.	Potential impacts to natural resources from surface disturbing activities. The project area lies within the Crow Creek Watershed, a major drainage for the base.
<b>Geology, Soils and Topography</b>	Possible contamination of soil with wastewater, and microorganisms if the current Lift Station fails and a wastewater spill occurs.	Possible contamination of soil with wastewater, and microorganisms if the current Lift Station fails and a wastewater spill occurs.	Possible contamination of soil with wastewater, and microorganisms if the current Lift Station fails and a wastewater spill occurs.
<b>Socioeconomic</b>	Possible negative socioeconomic impacts if a wastewater spill were to occur; wastewater could spread to nearby communities and residential areas, impacting quality of life.	Possible negative socioeconomic impacts if a wastewater spill were to occur; wastewater could spread to nearby communities and residential areas, impacting quality of life.	Possible negative socioeconomic impacts if a wastewater spill were to occur; wastewater could spread to nearby communities and residential areas, impacting quality of life.

## APPENDIX A: MAPS AND FIGURES

Figure A-1: 100 Year Floodplain

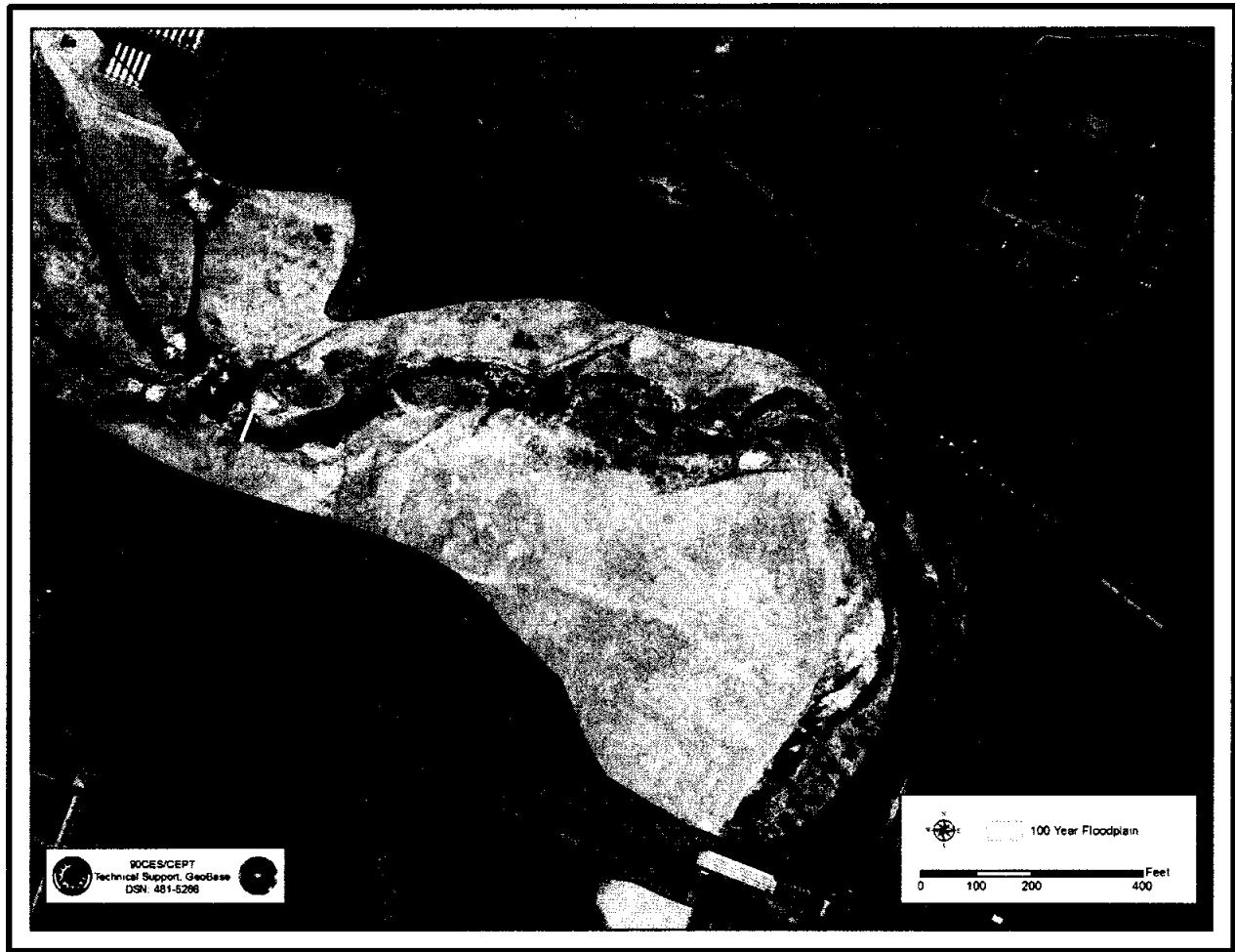
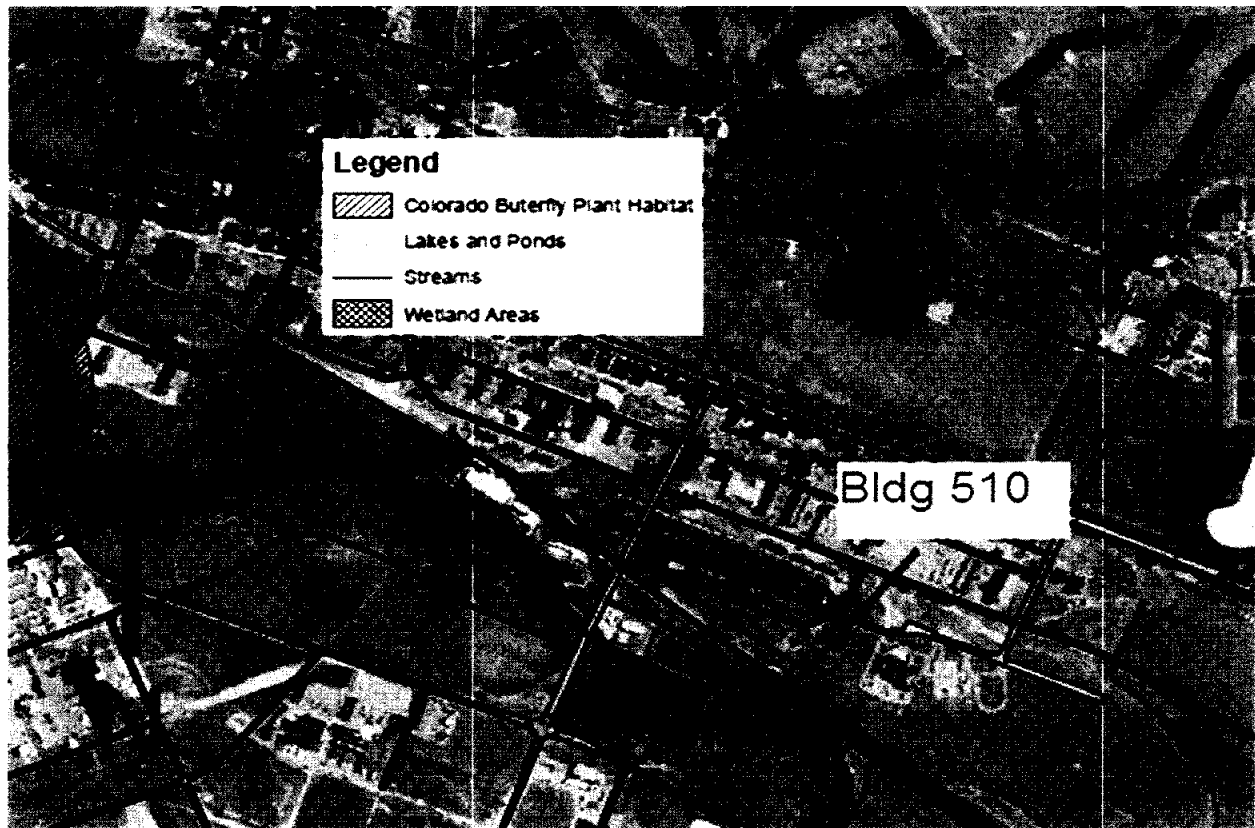
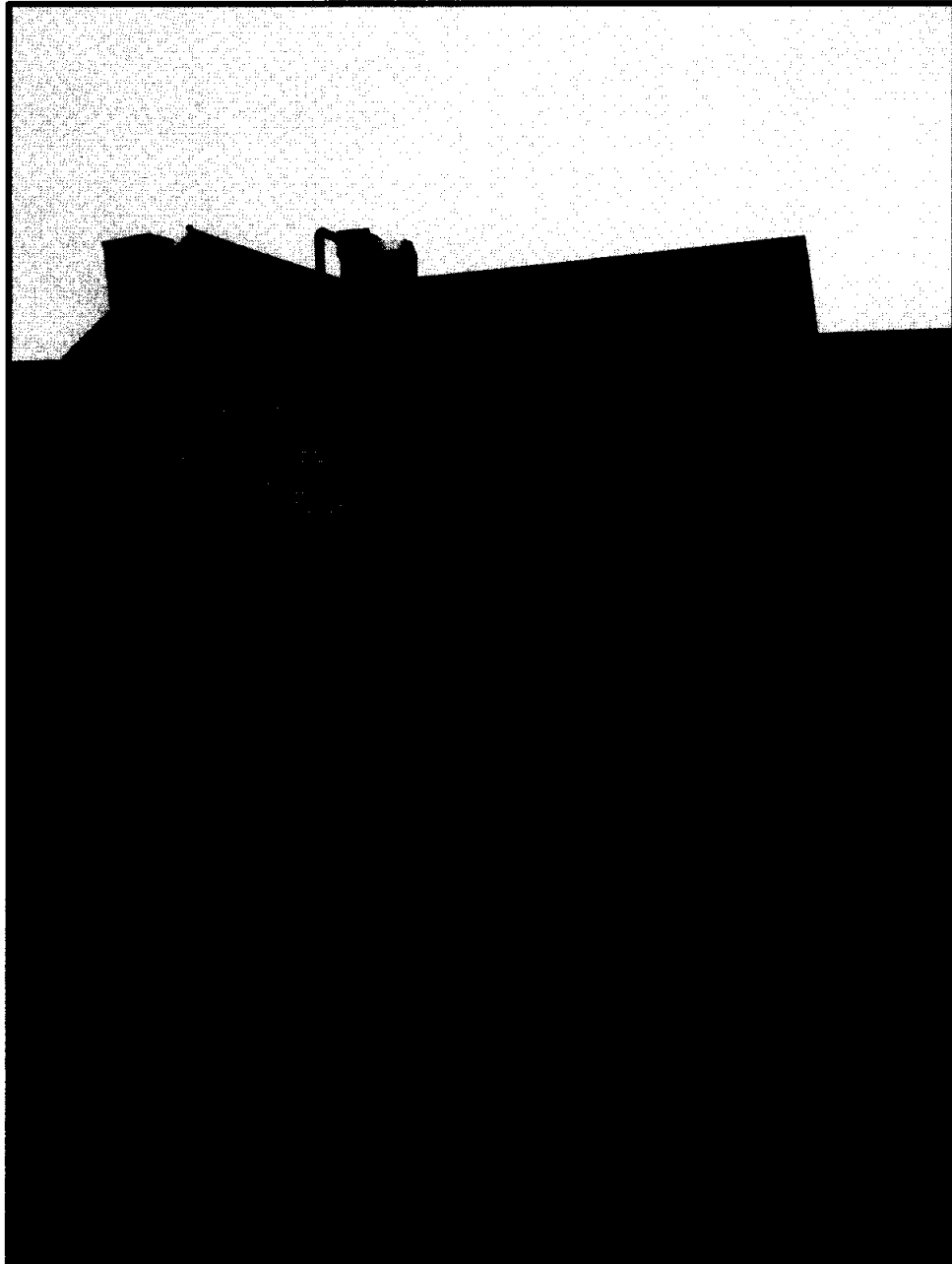


Figure A-1: Aerial photograph illustrating the boundary of the 100 year floodplain. The proposed action is not within the floodplain.

**Figure A-2: Wetlands and Threatened and Endangered Species**



**Figure A-3: Existing Bldg 510 (View from South)**



## **APPENDIX C: USFWS CORRESPONDENCE**



**DEPARTMENT OF THE AIR FORCE**  
**90TH MISSILE WING (AFGSC)**

**FEB 21 2012**

Mr. Travis Beckwith  
NEPA Program Manager  
300 Vesle Drive, Suite 600  
F. E. Warren AFB WY 82005-2793

U.S. Fish and Wildlife Service  
Ecological Services  
5353 Yellowstone Road, Suite 308A  
Cheyenne WY 82009-4178

Re: Partial Rebuild of Wastewater Lift Station (Building 510)

Dear Sir or Madam

F. E. Warren AFB (FEW or Base) is proposing to partially rebuild its wastewater Lift Station (Building 510). The Crow Creek Lift Station (Building 510) is located in the far southeastern corner of Base and is approximately 164 feet from the centerline of Crow Creek, Figure 1.

The Crow Creek Lift Station, built in 1951, is the sole wastewater Lift Station supporting FEW and is showing signs of foundation delamination. The wet well portion of the Lift Station where sewage collects prior to being pumped up to the main sewer distribution line is old and corroded from sewage gases.

FEW is proposing to construct an addition to the generator room of the Lift Station for the new pump station and wet well. All connections made would be to existing generators and new pumps will be installed. Once completed, the existing pump and wet well will be demolished. A force main would be replaced for approximately 300 feet to the next manhole due to age and deterioration. A dike would be constructed and installed around the facility to prevent runoff.

We have determined that, due to location of the proposed work, there will be no adverse impact to the Preble's Jumping Mouse, the Colorado Butterfly Plant, or either of these species' associated habitats. It is our understanding that this satisfies our responsibilities under Section 7(c) of the Endangered Species Act at this time, and we are sending you a copy of our draft Environmental Assessment for your files. We will continue to remain aware of any change in the status of these species and will be prepared to re-evaluate potential project impacts, if necessary.

Please contact me if you require additional information at (307) 773-3667.

Sincerely

TRAVIS A. BECKWITH, GS-11, DAF  
NEPA Program Manager

Attachment:

1. Environmental Assessment (Draft)



## **APPENDIX D: SHPO CORRESPONDENCE**



**DEPARTMENT OF THE AIR FORCE**  
**90TH MISSILE WING (AFGSC)**

Lt Col Travis K. Leighton  
Commander, 90th Civil Engineer Squadron  
300 Vesle Drive, Ste 600  
F. E. Warren AFB WY 82005

Mrs. Mary Hopkins  
State Historic Preservation Office  
Barrett Building, Third Floor North  
2301 Central Ave  
Cheyenne WY 82003

Dear Mrs. Hopkins

F. E. Warren AFB (FEW) is proposing to upgrade the lift station (Building 510) in order to ensure that wastewater generated by the base is safely and efficiently moved to the City of Cheyenne's sanitary sewer system. The proposed undertaking will remove a portion of Building 510, construct a new building adjacent to the existing, and realign incoming sewer lines. The attached drawings illustrate the nature of the proposed undertaking.

The FEW Cultural Resources Manager reviewed the proposed undertaking and determined that it would have no adverse effect on historic properties. In accordance with Section 106 of the National Historic Preservation Act this is being submitted for your review and comment. If you have any questions, please contact Mr. Travis Beckwith at (307) 773-3667.

Sincerely

A handwritten signature in dark ink, appearing to read "Travis K. Leighton", is written over a horizontal line.

TRAVIS K. LEIGHTON, Lt Col, USAF  
Commander, 90th Civil Engineer Squadron

**Attachments:**

1. USGS Topographic Map
2. Assessment of Adverse Effects
3. Photograph
4. 65% Design Drawings for Repair of the Crow Creek Sanitary Lift Station Building 510

cc:  
90 CES/CEA  
90 CES/CEP

## Attachment 1: USGS Topographic Map

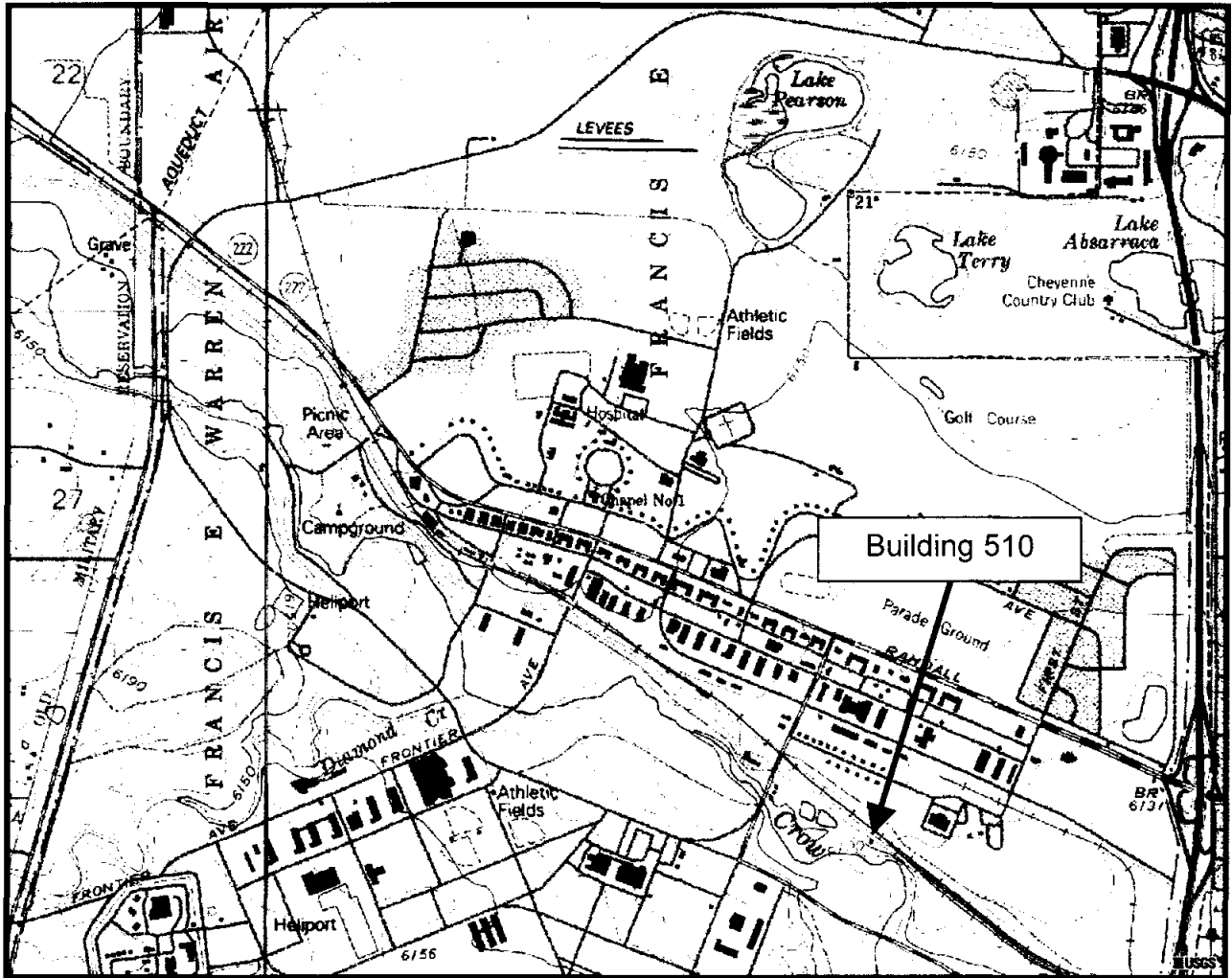


Figure 1: USGS topographic map illustrating the location of Building 510. A recorded archaeological site (48-LA-0106) is located approximately 400 feet east of Building 510. The proposed undertaking will not impact this site (U. S. Geological Survey. *Cheyenne North Quadrangle, Wyoming*. 1:24,000. 7.5 minute series. Reston, Virginia: USGS 1994.).

## Attachment 2: Assessment of Adverse Effects

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative (36 CFR 800.5). Adverse effects include, but are not limited to, the examples listed below.

Examples of Adverse Effects	Evaluation
Physical destruction of or damage to all or part of the property;	The proposed undertaking will not damage any historic properties.
Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary's standards for the treatment of historic properties (36 CFR part 68) and applicable guidelines;	The proposed undertaking is in accordance with the Secretary's Standards for the Treatment of Historic Properties. It will not be visible from the Fort D. A. Russell National Historic Landmark District.
Removal of the property from its historic location;	The proposed undertaking will not remove any property from its historic location.
Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;	The undertaking will not change the character of the property's use or of physical features within the property's setting that contribute to its historic significance.
Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;	The installation will not introduce any visual elements that diminish the integrity of the Fort D. A. Russell National Historic Landmark District.
Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and	The proposed undertaking will not cause the neglect of any property.
Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.	The proposed undertaking will not transfer any properties out of Federal ownership or control.

### Attachment 3: Photograph



Photograph 1: View looking northeast at the southwest corner of Building 510. The railroad berm that is in the background will shield view of the new building from the Fort D. A. Russell National Historic Landmark District (Photograph by T. Beckwith, March 2011).

# ARTS. PARKS. HISTORY.

Wyoming State Parks & Cultural Resources

THL STau M-1006

State Historic Preservation Office  
Barrett Building, 3rd Floor  
2301 Central Avenue  
Cheyenne, WY 82002  
Phone: (307) 777-7697  
Fax: (307) 777-6421  
<http://wyoshpo.state.wy.us>

29 December 2011

Lt Col Travis K. Leighton  
Commander, 90<sup>th</sup> Civil Engineer Squadron  
300 Vesle Drive, Ste 600  
F.E. Warren AFB, WY 82005

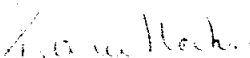
Re: F.E. Warren proposal to upgrade the lift station, Building 510 (SHPO File # 1211KLH011)

Lt Col Leighton:

Thank you for consulting with the Wyoming State Historic Preservation Office (SHPO) regarding the above referenced undertaking. The proposed undertaking would remove a portion of the World War II era building and construct a new building adjacent to the existing. Since the building is outside the National Historic Landmark Historic District, will not visually impact the district, and is not individually eligible for listing on the National Register of Historic Places, we concur your finding, that no historic properties, as defined in 36 CFR § 800.16(l)(1), will be adversely affected by the undertaking as planned.

This letter should be retained in your files as documentation of a SHPO concurrence on your finding of no historic properties adversely affected by this undertaking, as currently planned. Please refer to SHPO file # 1211KLH011 on any future correspondence regarding this undertaking. If you have any questions, please contact me at 307-777-7828.

Sincerely,



Kara Hahn  
Senior Cultural Resources Specialist



Matthew H. Mead, Governor  
Milward Simpson, Director

## **APPENDIX E: USACE CORRESPONDENCE**



DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, OMAHA DISTRICT  
WYOMING REGULATORY OFFICE  
2232 DELL RANGE BOULEVARD, SUITE 210  
CHEYENNE WY 82009-4942

REPLY TO  
ATTENTION OF

May 16, 2011

Wyoming Regulatory Office

Andy McKinley  
Department of the Air Force  
90 CES/CEAN  
300 Vesle Drive, Suite 600  
F.E. Warren AFB, Wyoming 82005

Dear Mr. McKinley:

This letter is in response to a letter we received on May 5, 2011 concerning a pre-construction notification regarding replacement of an existing sewage lift station located at F.E. Warren AFB, Wyoming. The project is located in Section NW ¼, NE ¼ Section 35, Township 14 North, Range 67 West, Laramie County, Wyoming.

The U.S. Army Corps of Engineers regulates the placement of dredged and fill material into wetlands and other waters of the United States as authorized primarily by Section 404 of the Clean Water Act (33 U.S.C. 1344). The term "waters of the United States" has been broadly defined by statute, regulation, and judicial interpretation to include all waters that were, are, or could be used in interstate commerce such as streams, reservoirs, lakes and adjacent wetlands. The Corps regulations are published in the *Code of Federal Regulations* as 33 CFR Parts 320 through 332. Information on Section 404 program requirements in Wyoming can be obtained from our web site at <https://www.nwo.usace.army.mil/html/od-rwy/Wyoming.htm>.

We have reviewed the material submitted and determined that no regulated fill placement will be associated with your project. Therefore a DA permit will not be required.

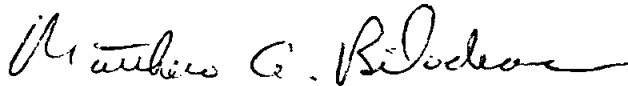
In the March 28, 2000, edition of the *Federal Register* (Vol. 65, No. 60), the Corps implemented an administrative appeals process for jurisdictional determinations. This letter serves as an approved jurisdictional determination. The landowner or other affected parties can appeal the determination to the Division Engineer's appeal officer, Mr. David Gesl by obtaining a Notification of Administrative Appeal Options and Process (NAO) form at our web site. Section "D" of the NAO explains the procedures for appeal. The NAO form must be submitted to Mr. Gesl at the address shown on the NAO form prior to **July 16, 2011** or forfeit the right to an administrative appeal.



As a result of this analysis, we have determined that Department of the Army authorization is not required for the proposed project described above because it does not require any discharges of fill material into waters of the United States. This determination does not eliminate the requirement to obtain any other applicable federal, state, tribal, or local permits that may be required.

Thank you for your interest in cooperating with requirements of the U.S. Army Corps of Engineers' regulatory program. If you have any questions, please contact me at (307) 772-2300 and reference file NWO-2011-00932.

Sincerely,

A handwritten signature in black ink, appearing to read "Matthew A. Bilodeau". The signature is fluid and cursive, with a long horizontal stroke at the end.

Matthew A. Bilodeau  
Program Manager  
Wyoming Regulatory Office

The Omaha District, Regulatory Branch, Wyoming Regulatory Office is committed to providing quality and timely service to our customers. In an effort to improve customer service, please take a moment to complete a Customer Service Survey found on our web site at <http://www.nwo.usace.army.mil/html/od-rwy/survey.htm> Paper copies of the survey are also available upon request for those without Internet access.